

**MINISTRY OF EDUCATION
“1 DECEMBRIE 1918” UNIVERSITY OF ALBA IULIA
FACULTY OF ECONOMIC SCIENCES
DOCTORAL SCHOOL OF ACCOUNTING**

SUMMARY OF THE DOCTORAL THESIS

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**ANALYSIS OF THE FINANCIAL
PERFORMANCE OF THE PHARMACEUTICAL
INDUSTRY SECTOR IN ROMANIA IN THE
PRE-AND POST-PANDEMIC PERIOD**

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INTRODUCTION

The general context of the research

In a constantly changing business environment, with ever tighter market competition, imperfect and ever-changing legislation, the notion of performance has a special significance for the wide range of users of accounting information: shareholders, investors, suppliers, and customers, credit institutions, the state, financial analysts, employees, etc. Any economic entity aims to achieve objectives, maximize results, make resource use more efficient and obtain a necessary monetary surplus in conditions of a crisis of availability, and, last but not least, achieving an economic and financial balance.

Performance is a complex notion, which has known a series of definitions in the specialized literature. Many of these have tended to focus on the term efficiency, presenting financial results in the form of profit as a primary measure of performance. In the economic field, the concept of performance resonates with different meanings, such as: growth, productivity, profitability, profit, value, progress.

Since a number of economic, social and financial imbalances are present, any business is subject to risk, since unexpected events can occur in any activity that may have less than pleasant consequences for the activity of any economic entity. The need for risk assessment brings with it the need to carry out certain summary calculations, on the basis of certain elements taken as a basis for calculation, interpreting the results and proposing measures to combat financial, economic and accounting obstacles. The need for diagnosis, for establishing the financial and economic health, arose as a result of the need to respond to the internal and external environment to the issue of profitability, liquidity, solvency and the financial stability of economic entities. Economic-financial analysis is also acquiring a strong informational dimension, becoming increasingly necessary and useful in the process of understanding the essence of phenomena, based on their in-depth study (Spătaru L., 2004)¹.

The pharmaceutical industry is responsible for the development, production and marketing of pharmaceutical products and preparations that take the form of medicines. The

¹ Liviu Spătaru, *Economic-financial analysis: a tool for enterprise management*, Editura Economică, Bucharest, 2004, pg. 31

pharmaceutical sector is of immense importance as a global sector, being a vital area of activity that through the supply of medicines contributes to the diagnosis, treatment, maintenance, upkeep and preservation of the health of the population.

Statistics have shown that the pharmaceutical industry is one of the most competitive and dynamic of the sectors present on the market, which is why competition is very close (Rotărescu A.M., 2017)². The pharmaceutical industry today, brings together one of the greatest potentials of all mankind (Dragan, 2009)³, being seen as one of the most dynamic, volatile and innovative parts of the global economic environment, with a great impact on society, being an indicator of the state of health systems (Szmelter, 2019)⁴.

Humanity was confronted in late 2019 and early 2020 with the emergence of an unknown virus with an unprecedented frequency of spread, which subsequently affected all areas of life, including the economic environment. Coronavirus infectious disease (Covid-19- a highly contagious respiratory virus) first appeared in China. From a simple epidemic to a pandemic was just a step away. The virus spread globally to the point where the World Health Organization (WHO) declared a global pandemic on 11 March 2020⁵. The evolution of the disease, particularly the uncertainty of its economic impact, has made it difficult for policymakers to formulate appropriate macroeconomic policy, all of which demonstrates that even an epidemic can significantly affect the global economy in the short term⁶.

The Covid-19 pandemic has had a positive impact on the global pharmaceutical industry, so that in 2021 the sector manages to total revenues of USD 1.42 trillion (a significant increase of USD 158 billion compared to 2020). Also, under the impact of the health crisis, both the European and national pharmaceutical sectors have seen significant increases in profitability.

² Andreea-Mihaela Rotărescu, *Analysis of Biofarm's financial performance*, Working Papers Collection ABC'S OF THE FINANCIAL WORLD, WC no. 5, 2017, pp. 211-230

³ Kesić Dragan, *Strategic analysis of the world pharmaceutical industry*, 2009, Management, vol. 14, no. 1, pp. 59-76. <https://hrcak.srce.hr/38918>

⁴ Agnieszka Szmelter, *Global Pharmaceutical Industry: Characteristics and Trends*, 2019, Global Supply Chains in the Pharmaceutical Industry, Pg 29, DOI: 10.4018/978-1-5225-5921-4.ch003

⁵ Samah Hamed Almurisi, Doaa Al Khalidi, Khater Ahmed AL-Japairai &al., *Impact of COVID 19 Pandemic Crisis on the Health System and Pharmaceutical Industry*, 2021, Letters in applied nanobioscience, Volume 10, Issue 2, pp. 2298 - 2308 <https://doi.org/10.33263/LIANBS102.22982308>

⁶ Caner Ozdurak, Gulsah Alcan, Serap Dursun Guvenbas, *The impact of covid-19 to global pharmaceuticals and biotechnology company stocks returns*, 2020, Volume 9, Issue 2, pp. 68 – 79, <https://doi.org/10.17261/Pressacademia.2020.1215>

We can thus state that the pharmaceutical industry has been and continues to be the lifeline of the financial, economic, and social environment through its active contribution to the health and well-being of human capital, without which there can be no prosperous growth and future development of any economic and financial activity.

Research motivation

The evolution of the economic environment underlines the relevance and the need to know performance, a complex indicator that has been and still is a priority, a guarantee of profitable economic results, a measure of profit, growth, productivity, value creation, as well as being a difficult indicator to achieve.

Studies dealing with the concept of performance show the indisputable importance that performance measurement has for both the internal and external environment of the economic entity. At the entity level, performance means success, being in fact a dependent representation of the success of different categories of users of accounting information, contributing to the improvement of the cost-value couple (Pintea, Achim, 2010)⁷, and performance measurement seems to be the story that never ends for managers, consultants and academics (Wagner, 2009)⁸.

Knowledge of the financial position and performance is an essential prerequisite for assessing possible risks, for monitoring the financial performance of an entity and, finally, as a basis for forming opinions on the economic and financial development of the business.

The pharmaceutical industry has always been and will always remain a rich industry, but the last 20-30 years have seen an explosion in the consumption of medicines, more or less recommended, against a background of panic about viruses and bacteria, the belief that human beings can treat themselves as they see fit, and the increasingly poor state of health of many of us, factors which have ultimately led to a far too high demand for and consumption of

⁷ Mirela Oana Pintea, Monica Violeta Achim, *Performance - an evolving concept*, Annals of University of Craiova-Economic Sciences Series, 2010, Vol.no. 2(38), pg.3,pg.7

⁸ Jaroslav Wagner, *Measuring performance-conceptual framework questions*, European Research Studies Journal, vol.(3), 2009, pages 119-134

pharmaceutical products, thus also leading to a considerable increase in the revenues of the major drug manufacturers⁹.

Based on the major importance that the performance analysis activity has both for the internal environment and for the users of accounting information, we have chosen as research topic *the analysis of the financial performance of the pharmaceutical industry sector in Romania in the pre- and post-pandemic period*.

The reason for choosing the pharmaceutical industry is based on the fact that the pharmaceutical industry sector is a vital area of activity that through the supply of pharmaceutical products and preparations in the form of medicines contributes to the diagnosis, treatment, maintenance, and preservation of the health of the population, and the need for pharmaceutical products has led to an increase in both the number of manufacturers of medicines and the number of distributors. Analyzing the behavior of buyers, we can say that the pharmaceutical industry has been a savior industry, and still one of the most financially successful. The global pharmaceutical industry has undergone complex changes over the years to become the most innovative and profitable branch of manufacturing.

The covid-19 pandemic has caused a restructuring of economic and social activities, negatively impacting some sectors of the economy (tourism being the most affected), representing a business opportunity for the IT sector, the medical sector, and especially the pharmaceutical sector.

In this sense, the main purpose of this paper is to analyze the financial performance of the pharmaceutical industry sector in Romania in the pre- and post-pandemic period, by comparing the trend of the financial position and performance indicators in the period before the advent of Covid-19 (and we are talking here about a broad time horizon of 20 years, between 2000 and 2019), with the period after Covid-19 (2020 and 2021). In order to assess the financial performance of the economic entities belonging to the pharmaceutical industry in Romania, we used the main indicators provided by the annual financial statements (in the category of which we find: turnover, net/gross profit, revenues, expenses, stocks, receivables, debts, fixed and current assets, average number of employees, equity, share capital and other indicators) for:

⁹ Bianca Moruș, *Cele mai bogate companii farmaceutice din lume*, 2020, <https://life.ro/cele-mai-bogate-companii-farmaceutice-din-lume/>

a) 46 economic entities operating in Romania in 2019 in the field of manufacture of basic pharmaceutical products (caen code: 2110)

b) 113 economic entities operating in Romania in 2019 in the manufacture of pharmaceutical preparations (caen code: 2120).

The indicators needed to assess the financial performance in the pharmaceutical industry: the rate of return on financial, economic and commercial, the return on income and expense rate of return, net profit margin, debt ratio and overall debt ratio (financial leverage), as well as overall solvency and equity ratio; were calculated on the basis of data from the annual financial statements of the 46 economic entities with caen code 2110 and 113 entities with caen code 2120 (a total of 159 entities) over a period of 20 years (2000-2019), financial statements published on [www. mfinante.ro](http://www.mfinante.ro) and www.topfirme.com. With the onset of the Covid-19 pandemic, the number of economic entities operating in the pharmaceutical manufacturing industry in Romania has gradually decreased, reaching a total of 151 entities in 2021 (107 in the field of manufacture of pharmaceutical preparations, and 44 in the field of manufacture of pharmaceutical products).

A number of studies address the impact of various factors on the performance, profitability and size of pharmaceutical entities. Many of them focus on analyzing the relationship between management indicators (stock turnover, assets, customers, and suppliers), risk indicators (leverage, debt ratio), profitability indicators (turnover, profit margin) and the profitability of the pharmaceutical sector.

In this regard, in our approach we aimed to analyze the relationship between the profitability of the pharmaceutical industry sector measured by ROA (return on assets) and ROE (return on equity) indicators, and indicators of companies' capital structure: equity, cash and cash equivalents and average number of employees; profitability indicators such as turnover and net profit margin; risk indicators such as the degree of indebtedness, and a macroeconomic indicator represented by health expenditure per capita at national level, using econometric modeling, on a sample of panel data for a number of 41 economic entities for which we have data available for the whole period 2001-2021 (last 21 years).

Research objectives

Through its content, this research brings into discussion concepts, ideas, questions, answers, solutions regarding financial performance and the use of financial performance analysis models as a tool to monitor the health status of the entity, the pre- and post-pandemic evolution of the global, European and national pharmaceutical sector, as well as the analysis of the evolution of the indicators of the financial position and performance of the manufacturing pharmaceutical industry in Romania. In this respect, we have paid particular attention to how the performance of the pharmaceutical sector can be measured through indicators of profitability, risk and solvency. By means of economic-financial analysis and financial-accounting diagnosis - as complex tools for verifying the functionality of an entity, used to determine the elements that hinder the good functioning of the activity, by identifying the signs of deterioration of the financial health of the entity and prescribing the necessary treatment to carry out the activity within normal limits and to improve it, we have provided models for analyzing the financial performance of economic entities in the national pharmaceutical sector.

The general objective of the paper *Analysis of the financial performance of the pharmaceutical industry sector in Romania in the pre- and post-pandemic period* aims, as the title suggests, to assess the financial performance of economic entities belonging to the pharmaceutical industry in Romania, based on information provided by financial reports, in the pre- and post-pandemic period. Starting from the general objective, we set the following specific research objectives:

- O1. To describe and characterize the financial-accounting diagnosis in order to highlight its importance in monitoring the financial health of the entities;
- O2. Knowledge of the role and objectives of financial-accounting diagnosis;
- O3. Establish the relationship between economic-financial analysis and financial-accounting diagnosis in order to establish the link between these two activities;
- O4. Present the most current concepts on the notion of performance in order to highlight the importance of knowing and measuring it;
- O5. Characterize profit as a primary indicator of financial performance;

O6. Presenting the relationship between profit and cash flow and between performance and cash flow, taking into account that a significant profit can hide serious financial imbalances;

O7. Knowledge of the influence that accounting policies (especially methods of valuing inventories at exit) have on the measurement of performance;

O8. Establish the impact of International Financial Reporting Standards (IFRS) on performance;

O9. Identify and present the indicators used in financial performance analysis work;

O10. Presentation of developments and trends in the global, European and national pharmaceutical sector in the pre-pandemic period;

O11. Detail the COVID-19 pandemic and its impact on the economic environment;

O12. Diagnosing the impact of the COVID-19 pandemic on the pharmaceutical industry;

O13. Analysis of the evolution of the global, European, and national pharmaceutical sector under the impact of the health crisis;

O14. Analysis of the evolution of the financial position and performance of entities in the pharmaceutical industry in Romania in the pre-pandemic period;

O15. Analysis of the impact of the COVID-19 pandemic on the indicators of the financial position and performance of the pharmaceutical manufacturing industry sector in Romania;

O16. Analysis of the impact of determinants on the profitability of the pharmaceutical sector in Romania.

In order to achieve the proposed research objectives, we have formulated the following hypotheses:

I1. Financial accounting diagnosis is a complex tool for verifying the functionality of the activity of an economic entity.

I2. Financial accounting diagnosis has a role in supporting managerial decisions and is characterized by the identification of strengths and weaknesses in the activity of an entity, as well as the prescription of treatment, as the objectives of the diagnosis.

I3. As part of the economic and financial analysis, the diagnosis helps us to identify and monitor risks occurring during the economic activity.

I4. Financial performance is a complex concept, which is always topical and of particular significance to the participants in the economic life of the entity.

I5. The primary objective of an entity is and will remain the achievement of profit, as the main indicator in assessing the performance of an economic entity and its health.

I6. A profitable entity should record both profit (through the utilization of resources, their efficient use, the reduction of losses) as an essential indicator in assessing financial performance, and sufficient cash flow.

I7. Entities have a wide scope for influencing their performance, linked to the accounting policies applied, in particular in the choice of a valuation method for inventories on exit.

I8. The restatement of financial and accounting information in accordance with IFRS requirements provides us with a new system of performance evaluation, which places more emphasis on the new value created, on the contribution of the entity to national wealth through value added; a system useful both to stock market investors and financial analysts in making their forecasts.

I9. Financial performance can be measured by interim management balances, value added, profitability, liquidity, solvency, financial balance indicators.

I10. The pharmaceutical industry is one of the most innovative and profitable branches of the manufacturing industry, and the growth in the consumption of medicines also justifies the increase in the profitability of the pharmaceutical industry at global, European and national level.

I11. Globally, in 2020 mankind was faced with a crisis that was more complex than any other crisis in the past, with a huge impact on all aspects of life, and which has led to a restructuring of economic and social activities, negatively impacting some sectors of the economy.

I12. The coronavirus pandemic is seen as a business opportunity for the pharmaceutical sector.

I13. The health crisis has had a positive impact on the development of the global, European and national pharmaceutical sector in terms of increased revenues for this segment of the business, and by analyzing the behavior of buyers, we can state that the pharmaceutical industry has been a savior industry, and one of the most financially successful.

I14. The manufacturing pharmaceutical industry in Romania is benefiting from significant increases in the value of both financial position and financial performance indicators, justified by the increase in sales of medicines, the expansion of pharmacy chains, and the growing need for pharmaceutical products.

I15. The Covid-19 pandemic has had a positive impact on the pharmaceutical industry in Romania by increasing the profitability, profitability and financial stability of entities producing pharmaceutical products and preparations.

I16. Health expenditure as a macroeconomic indicator has a significant impact on the profitability of the pharmaceutical sector. Also, leverage, turnover, net profit margin, average number of employees and cash flow have a significant impact on the profitability of the pharmaceutical sector.

Research methodology

The paper deals with an issue that involves specific research methods, aiming both to address the topic from a theoretical point of view by consulting the literature, developing new theories, and then by testing concepts and reflecting, respectively integrating existing concepts for the analysis and interpretation of the evolution of financial position and performance indicators.

In this regard, we have aimed to present the current state of knowledge, using national and international bibliographical references, relevant tax, European and national regulations, studies and research, scientific articles, specialist books, official documents, press releases, accounting and tax documents of companies, using as research method the review of literature (descriptive method), aiming at highlighting the current concepts of performance, profit, profitability, performance-profit-availability relationship, interferences between profit and cash-flow, financial-accounting diagnosis, measurement of financial performance through interim management balances, profitability and profitability indicators, value creation, liquidity, solvency and balance indicators. Also, the theoretical documentation as a research method allowed us to present the concepts considered significant in relation to the topic studied, with the main purpose of highlighting the importance of knowing and measuring the financial performance of economic entities belonging to the pharmaceutical industry.

Operationalization as a research method was chosen to identify links and correlations between theoretical and practical aspects, but also in the selection of indicators considered to be more representative of the topic studied.

The study of summary documents as a research method was chosen primarily as a basis for the research on the analysis of the financial performance of the pharmaceutical industry sector in Romania, but also to note the main similarities and differences in terms of the structure of the profit and loss account, the possibility of using the information provided by the annual financial statements prepared in accordance with national rules and IFRS in measuring performance.

Comparative analysis was used substantially in the paper in order to assess the trend of financial position and performance indicators in the period before the health crisis as well as in the post-crisis period. We have also used the comparison in presenting the evolution of the global, European and national pharmaceutical sector by analyzing the profitability of the sector during the two years before the health crisis (2018-2019) with the profitability during the pandemic period (2020-2021). The comparative analysis was also used to assess the financial position and performance of the economic entities belonging to the pharmaceutical industry in Romania, by comparing the trend of the indicators of the entities operating in the field of manufacture of basic pharmaceutical products (caen code: 2110) with the trend of the indicators of the entities operating in the field of manufacture of pharmaceutical preparations (caen code: 2120).

The use of case studies (empirical analysis) as a research method aimed to confirm and verify concepts found in the literature.

The use as a research method of empirical research aims primarily at assessing the financial performance within economic entities belonging to the pharmaceutical industry in Romania, and specifically, the following aspects:

- illustrating the evolution of the main indicators of financial position (total assets, net/gross profit, equity, turnover, income and expenses, debts) for economic entities belonging to the pharmaceutical industry in Romania;
- illustrating the evolution of financial performance indicators (profitability, profitability, risk, solvency indicators) for economic entities in the pharmaceutical industry in Romania.

Graphical representation is a research method used in the paper to present the results of the analysis of the financial performance of the pharmaceutical industry sector in order to synthesize, firstly, and to enhance the comprehensibility of the information obtained, secondly.

Participatory observations was used to analyses and interpret the results of the research carried out, along with the substantiation of opinions based on the results obtained as well as the achievement of the proposed objectives.

Finally, econometric modeling as a research method was chosen to study the impact of determinants on the economic and financial profitability of the pharmaceutical sector in Romania, and specifically for:

- establishing the relationship between entity size (expressed in turnover) and economic and financial profitability in the Romanian pharmaceutical industry;
- establishing the relationship between average number of employees and profitability;
- establishing the relationship between net profit margin and profitability;
- establishing the relationship between equity and profitability;
- establishing the relationship between cash and cash equivalents and profitability;
- establishing the relationship between leverage and profitability;
- establishing the relationship between current health expenditure per capita and ROA and ROE in the pharmaceutical industry in Romania.

The brief content of the chapters

The paper presents details and systematizes the most current issues related to the financial performance of the pharmaceutical industry sector in the pre- and post-pandemic period, materialized in four chapters, with a total of 30 figures, 47 tables and 59 graphs.

Monitoring the health of the entity is conditional on a good understanding of the concept of financial-accounting diagnosis, its necessity and importance, the objectives underlying the diagnostic activity, the components of the financial-accounting diagnosis, the data sources used in the diagnostic activity, how to carry it out and the users of the financial diagnosis. As a result, *Chapter 1. Financial-accounting diagnosis: Object of determining the*

health of the economic entity deals with the main aspects characterizing the diagnostic activity, the necessity and role of the financial-accounting diagnosis as a system of monitoring the functionality of an economic entity, the objectives underlying it, its importance and the way it is carried out, risk as a central element of the diagnosis, the relationship between economic and financial analysis and financial-accounting diagnosis, the users and sources of information for financial-accounting diagnosis, highlighting the important role of financial-accounting diagnosis in establishing and assessing the health of the entity and identifying deficiencies, irregularities, anomalies and risks that threaten the proper functioning of an economic entity.

In order to meet all the challenges, and to be prosperous, attractive, and with prospects for growth, an entity must be performing, i.e. making a profit, and therefore a significant result. So, in *Chapter 2. Theoretical foundations of financial performance*, we set out to characterize the notion of performance, to present the relationship between performance, profit and cash (based on the assumption that a profitable entity must have both profit and sufficient cash), income and expenses as important pillars in determining the result, the work of measuring financial performance (typology, indicators, importance), the implications of accounting policies (in particular methods of valuing inventories on exit) on performance, the application of IFRS and their impact on performance, and the set of indicators used to analyse financial performance: Interim management balances, value added, profitability and profitability indicators, liquidity, solvency and financial balance indicators.

In Chapter 3. Analysis of the financial performance of the pharmaceutical industry sector in the pre- and post-pandemic period, we have presented the characteristics of the pharmaceutical market, the main developments in the global and European pharmaceutical sector in terms of the evolution of the revenues of the major companies, the top of the largest companies globally and the top of the European pharmaceutical companies, a summary of the European trade in antibiotics, an analysis of the production of medicines, international trade (imports and exports), the trade balance and the employability of the European pharmaceutical sector. We have also paid particular attention to the national pharmaceutical sector by covering developments in the value of revenues recorded by pharmaceutical companies in Romania, by presenting the top of the country's most important drug producers, distributors and retail chains, and by describing the synthetic indicators of the national pharmaceutical

sector. Following the onset of the Covid-19 pandemic, in this chapter we also describe the health crisis and its impact on the economic environment. This chapter also covers topics related to the evolution of the global, European and national pharmaceutical sector in the post-pandemic period (2020-2021), the diagnosis of the impact of the pandemic on the pharmaceutical industry, and the importance of R&D in the pharmaceutical industry.

In Chapter 4. Research on the evolution of financial performance indicators in economic entities belonging to the pharmaceutical manufacturing industry in Romania in the pre- and post-pandemic period, we started with a brief description of the economic entities used as a basis for the research, we made a ranking of them according to turnover, we analyzed the evolution of their financial position (number of entities, average number of employees, labor productivity, fixed and current assets, stocks and cash, equity and shareholders' equity, turnover, gross/net profit) in the Romanian pharmaceutical industry over the period 2000-2019 (20 years), as well as the evolution of financial performance indicators (net profit margin, financial profitability, economic profitability, commercial profitability, return on revenue and expenses, debt and leverage, financial leverage, overall solvency and equity). Following the onset of the health crisis, we have also analyzed the impact of the Covid-19 pandemic on the financial position and performance indicators mentioned above, over the period 2019-2021. In order to study the impact of determinants on the profitability of the pharmaceutical industry sector in Romania, using econometric modeling and Stata econometrics software, in the fourth chapter we analyzed the results of two regression models based on a sample of panel data for a number of 41 economic entities for which we have data available for the whole period 2001-2021 (the last 21 years).

CONCLUSION

The economic environment in which entities operate is frequently beset by numerous changes, economic, social, financial, accounting and legislative. In a competitive environment, entities need to know their resources, assess the risks that may affect their activity, determine their vulnerability to the economic environment, and measure their weaknesses and their opportunities for development, thus leading to the successful achievement of the entity's objectives and development.

Any entity must adapt to the conditions of an increasingly complex and difficult competitive economic environment, focused on achieving results without emphasizing the factors that lead to the achievement of strategic objectives. Knowledge of the financial position and performance is an essential prerequisite for assessing possible risks, monitoring an entity's financial performance and providing a basis for opinions on the economic and financial development of the business.

With the general objective of assessing the financial performance of economic entities belonging to the pharmaceutical industry in Romania, based on information provided by financial reports, in the period before and after covid-19; The paper Analysis of the financial performance of the pharmaceutical industry sector in Romania in the pre- and post-pandemic period deals with topics related to financial accounting diagnosis, financial performance and the use of financial performance analysis models as a tool for monitoring the health status of the entity, the pre- and post-pandemic evolution of the global, European and national pharmaceutical sector as well as the evolution of financial position and performance indicators for the pharmaceutical manufacturing industry in Romania.

By presenting, detailing, characterizing the financial-accounting diagnosis, its necessity and importance, its objectives, how it is carried out, the data sources used as well as the users of financial-accounting diagnosis, the first chapter responds to the first proposed research objectives (objectives O1-O3), and, based on what is presented here, we conclude the following:

1.1. Financial-accounting diagnosis is a complex tool for verifying the functionality of an entity, used to determine the elements that hinder the smooth running of the business, by identifying signs of deterioration in the financial health of the entity and prescribing the treatment necessary to carry out the business within normal limits and to improve it, providing a specialized picture of the entity's progress over a given period, dealing with various problems relating to liquidity, solvency, performance, risk, financial balance and thus leading to the identification of ways of increasing the profitability of an entity.

1.2. The link between financial and accounting diagnosis and management decisions is undeniable. The recommendations made as a result of the diagnosis should form the basis for management decisions. This shows that the main role of financial and accounting diagnosis is to support management decisions. We consider that the most important objective of the

financial-accounting diagnosis is to identify the causes of the dysfunctions existing at entity level, starting from the consideration that the basis for establishing financial recovery measures are the factors that have caused imbalances in the financial-accounting activity.

1.3. Economic and financial analysis aims to study the use of financial, technological, human, material and information resources by calculating certain indicators whose value allows us to formulate opinions on the past, present and future development of any economic entity, the degree of exploitation of existing resources, the improvement of the activity carried out by each economic entity. The financial-accounting diagnosis is used in addition to the economic-financial analysis and is considered either a tool or an end of the economic-financial analysis, given its ability to identify signs of deterioration in the financial health of the entity and prescribe the necessary treatment to carry out the activity within normal limits and to improve it, and, as part of the analysis, the diagnosis helps us to identify and monitor the risks that occur in the course of an economic activity.

The assessment of performance and the achievement of research objectives O4-O9 regarding the knowledge of performance, the link between profit, cash and performance, the influence of IFRS and accounting policies on performance, and the indicators used in the performance analysis, was made possible through chapter 2, after which we have based the following conclusions:

2.1 Performance is a priority, a goal of an economic and social game that has economic entities as its main actors, an assurance of profitable future results, and the creation of value as a result of performance, is a point of interest for participants in the economic and social life of the entity. We can conclude that performance is the most complex and difficult indicator to achieve, being an asset, a trophy, a prize, a medal that can be obtained by any entity, and, in addition to productivity, profitability, profit, performance also includes other aspects such as: good management of financial resources, optimal coverage of possible risks and the proposal of measures to prevent and combat them, good compliance with the obligations arising from the entity's relationship with the internal and external environment, and sufficient remuneration of working capital.

2.2. In order to meet all the challenges, and to be prosperous, attractive, successful and growth-oriented, an entity must make a profit. As a consequence of the risk taken, profit is a reward for good stewardship of resources. The primary objective of an entity is, and will

remain, to make a profit, as the main indicator of an economic entity's performance and health. Profit is the ability of an economic entity to earn a return for the effort expended throughout its economic activity, a result of business efficiency, a competitive advantage, a bonus for good resource management, but most importantly, a measure of performance. Of course, in addition to making a profit, an entity must focus its attention on the sustainable development of its activity, on the exploitation of the factors of production, on obtaining the best and most optimal results for the resources consumed, but last but not least, on satisfying the needs of the various categories of participants in its life: employees, shareholders, the State, creditors and others.

2.3. In addition to making a profit, as an essential indicator in assessing the financial performance and health of an entity, cash is the raw material of an economic entity's survival in the business environment. A profitable entity must record both profit (by exploiting resources, using them efficiently, reducing potential losses) as an essential indicator in assessing the financial performance and health of an entity, and sufficient liquid assets (a positive cash position and therefore positive balance indicators, working capital and positive working capital requirements), which confirms a significant financing capacity), which are then needed to finance investments, the acquisition of new equipment, machinery and technology, optimal coverage of possible risks, good compliance with the obligations arising from an entity's relationship with the internal and external environment, and sufficient remuneration of working capital. In our view, availability is the vital substrate for the development, sustainable financing and survival of an entity in a dynamic business environment. Cash-flow, as the difference between receipts and payments, is a true indicator of performance, a performance that gives the economic entity an important position in the market. A good and correct assessment of financial performance implies both the use of profit in the calculation and determination of interim management balances, profitability indicators, value added, and the use of cash as the main pillar in the calculation of liquidity, solvency and balance indicators, thus reflecting a high degree of comparability of financial performance, leading to increased transparency of the operational and financial activities of entities.

2.4. The basis for the analysis of financial performance is the information provided by the accounting reports. We can state that the accounting methods and treatments used in the preparation of the accounting reports have a significant impact on the assessment of

performance. In this respect, economic entities have a great opportunity to influence their outcome and thus shape their performance. This includes the choice of valuation method for inventories, especially when they are released for consumption, as the entry of inventories into the entity does not generate an expense that affects performance. Accounting policies, and in particular the inventory valuation methods chosen by each company and regulated by national accounting legislation, have a considerable influence on costs and profit or loss, concealing various possibilities for manipulating performance.

2.5. In the case of the application of IFRS as the basis of accounting, we can discuss a new system of performance evaluation, which places more emphasis on the new value created by the entity and on the operating profit, a system channeled on the entity's contribution to national wealth through added value; a system useful both to stock market investors and to financial analysts in establishing their forecasts, which should be applied at entity level. The restatement of financial and accounting information in accordance with IFRS requirements, as reflected in a process of standardization of international accounting standards, creates a high degree of comparability of financial performance, leading to increased transparency of the operational and financial activities of entities.

2.6. Depending on the interests of the users of accounting information, performance is perceived differently, either through profit, results, sustainability, liquidity, profitability, efficiency, cash-flow, and in the context of performance measurement we have a number of indicators that derive from the consideration that an assessment of the health of an entity based on the profit achieved is not sufficient. The assessment of financial performance is possible by means of interim management balances, which provide us with information on the ability of an entity to make a profit, profitability and profitability of the entity's activity on different levels. By showing how the result is formed, interim management balances are an important step in measuring an entity's financial performance. Good performance depends not only on the profitability of the entity. Often, the profit recorded by an entity in a reporting period does not accurately reflect the real benefits of the activity performed. We have a number of indicators to measure performance in order to assess as accurately as possible the health of the entity. As there are different assertions, the performance of an entity should be measured on the basis of several categories of indicators, depending on the interests of the users: profitability, interim balances, liquidity, solvency, balance and value added.

The pharmaceutical sector is of immense importance as a global sector, as it is a vital area of activity which, through the supply of medicines, contributes to the diagnosis, treatment, maintenance, upkeep and preservation of the health of the population. The third chapter deals with the evolution of the global, European and national pharmaceutical sector in the pre- and post-pandemic period, together with the characterization of the pandemic of influenza-19 and the diagnosis of its impact on the pharmaceutical sector. Following the analyses carried out in this chapter, and, by achieving research objectives O10-O13, we have drawn the following conclusions:

3.1. The pharmaceutical industry is an important sector with continuous development and a fast growth rate. In terms of the world's major pharmaceutical manufacturers and distributors, the United States of America (USA) tops the ranking, with North American companies accounting for the largest share of pharmaceutical revenues. The top is followed by Europe, where countries such as Switzerland, the UK and France have the five largest European pharmaceutical companies. Also joining the rankings are pharmaceutical companies in China, where we are seeing an increase in revenues for the Chinese pharmaceutical industry.

On a European level, related to manufacturing activity, Swiss pharmaceutical companies are the most productive in Europe and, far behind the rest of the competitors, they achieve a production of €54.3 billion in 2019. In second place is France with a production of €35.8 billion, followed by Italy and Germany with production values of €34 and €33.1 billion. At the top of the European companies with the highest exports of pharmaceutical products is Germany with an export value of €81.8 billion in 2019, followed by Switzerland with €77.8 billion, Belgium, Ireland and the Netherlands. In addition to being the European leader in exports, Germany is therefore also the leader in pharmaceutical imports. With an import value of €52.6 billion in 2019 Germany overtakes Belgium, which imports €42.3 billion worth of pharmaceuticals. At a long way behind are countries such as the Netherlands (€30 billion), Switzerland (€29 billion), Italy (€27.8 billion), France (€26 billion) and the UK (€23.3 billion). Switzerland, the leading European country in terms of trade balance, has a trade surplus of €48.7 billion in 2019. The highest number of new hires in the pharmaceutical industry in Europe is in Germany, where around 120 thousand employees were hired in 2019. With 98 thousand hires in 2019, France is in second place. In third place is the United

Kingdom with 72 thousand hires, followed by Italy with 65.8 thousand, Spain with 47.4 thousand and Switzerland with 46.6 thousand.

As far as the national pharmaceutical sector is concerned, the research results show the upward trend of this sector, given the increase in profits recorded by companies in the sector, turnover and the number of employees, which shows us that the pharmaceutical industry is an important sector with a continuous development and a rapid growth rate.

3.2. Globally, in 2020, mankind faced a crisis more complex than any other crisis in the past, with a huge impact on all aspects of life. The covid-19 pandemic, also known as the health crisis, has produced changes in the financial, economic and social behavior of the population, leading to panic and health threats, an increase in the need for food supplies to a large extent, and a decrease in demand for certain sectors of the economy, rising unemployment, production cutbacks, quarantine and isolation, social distancing, working from home, increasing use of technology, constraints on certain activities, the need to purchase protective materials covid-19 and uncertainty about tomorrow. It can be said that the covid-19 pandemic has produced a restructuring of economic and social activities, negatively impacting some sectors of the economy (tourism being the most affected), representing a business opportunity for the IT sector, the medical sector and especially the pharmaceutical sector.

3.3. The emergence of the covid-19 virus has produced a number of changes in the social, financial and economic behavior of the population. The need for medicines, products so necessary and sometimes indispensable to health, has increased along with the panic of not being ravaged by such a dangerous virus. We can also see that sales of pharmaceutical products have increased during the pandemic. Although the coronavirus pandemic has had a major negative impact on the world economy, the pharmaceutical sector has managed to record increases in the production, marketing and sales of pharmaceutical products, so necessary to the fight against the new global virus. The coronavirus pandemic has positively influenced all macro-indicators of the European pharmaceutical industry, leading to increases in drug production, imports and exports, research and development expenditure and employability in the European pharmaceutical sector. Analyses show the positive impact of the coronavirus pandemic on the global pharmaceutical industry in terms of increased revenues for this business segment, confirming that the risk of the health crisis has been well

managed. Analyzing buyer behavior, we can say that the pharmaceutical industry has been a savior and one of the most financially successful industries.

3.4. The Covid-19 pandemic has had a positive impact on the global pharmaceutical industry, so that in 2021 the sector manages to total revenues of USD 1.42 trillion (a significant increase of USD 158 billion compared to 2020). In terms of global revenue distribution, North America remains the leader in terms of pharmaceutical sector earnings, accounting for almost half of the global pharmaceutical market revenues (49%). The ranking is followed by Europe, Africa, Asia (minus Japan) and Australia. The coronavirus pandemic has positively influenced the revenues of companies in China, increasing their share of total global revenues from 8.2% in 2020 to 9.4% in 2021 (the highest growth recorded by the global pharmaceutical industry subsystems), at the expense of Latin America and Japan.

At the European level, under the impact of the health crisis, Germany remains at the top of Europe's best performing countries in the pharmaceutical sector. In 2020, with total revenue of more than €42.5 billion, Germany ranks first, followed by France and Italy with revenues of €31.7 billion and €28 billion respectively. The next two outranked countries, Spain and Poland, have revenues of €22 billion and €6.7 billion respectively. In the middle of the ranking is Romania, with revenues of €3.3 billion, outperforming the Netherlands, the Czech Republic, Greece, Hungary and Finland? Within the European Union, the value of medicines production has increased from €127.5 billion in 2000 to €300 billion in 2021. EU imports and exports have been growing steadily, with EU pharmaceutical companies importing €390 billion worth of products and exporting €565 billion worth of medicines by 2021. Overall, the trade balance is positive, which means that over the whole period, the EU exports far more pharmaceutical products than it imports, so that in 2020 the difference between exports and imports totals €175 billion. In terms of the number of employees in the pharmaceutical sector, in 2021 there were 840,000 employees in the EU, up from 556,506 in 2000. The research and development sector also benefits from increases in the number of employees, from 88,397 in 2000 to 125,000 in 2021. The coronavirus pandemic has positively influenced all macro-indicators of the European pharmaceutical industry.

Nationally, under the impact of the Covid-19 pandemic, the pharmaceutical distribution sector remains the most profitable in terms of revenue, followed by the pharmacy chain sector and, in last place, the manufacturing sector. Over the period 2009-2020 we see a

significant increase in revenues for the distribution sector, from 17 billion lei in 2009 to over 40 billion lei in 2020. The pharmacy sector has also seen gradual increases, reaching 22 billion lei in 2020, compared to only 10.9 billion lei in 2009. Production has also seen increases, not as large as the other two branches, so that in 2020 the production sector totaled revenues of 4.4 billion lei. If we compare 2019 (the year before the coronavirus pandemic) and 2020 (the year heavily impacted by the pandemic), we see that both pharmaceutical distribution and pharmacies have seen increases. However, production decreased by 100 million lei in 2020 compared to 2019. Overall, we are talking about a positive impact of the pandemic on the pharmaceutical sector in Romania. The pandemic has also significantly influenced the evolution of the synthetic indicators of the pharmaceutical sector in 2020-2021. Even though the number of pharmaceutical companies decreased by 262 entities (4.33%) in 2020 and the number of employees decreased significantly, the health crisis has increased the productivity and performance of the national pharmaceutical sector. Pharmaceutical companies recorded an increase in profit of 856.56 million lei (28.88%) and an increase in turnover of 2 billion lei (3.08%).

In order to assess the financial performance of the economic entities belonging to the pharmaceutical industry in Romania, we used the main indicators provided by the annual financial statements (in the category of which we find: turnover, net/gross profit, revenues, expenses, inventories, receivables, payables, fixed and current assets, average number of employees, equity, share capital and other indicators) for a number of 159 entities in the pharmaceutical industry sector: 46 economic entities in the field of manufacture of basic pharmaceutical products - caen code: 2110 and 113 economic entities in the field of manufacture of pharmaceutical preparations - caen code: 2120. Following the research carried out in chapter four, we can conclude the following:

4.1. In the period 2000-2019 we witness a remarkable increase in the number of entities operating in Romania in the manufacturing pharmaceutical industry, from a number of 58 entities in the first year of analysis to 159 entities 20 years later, in 2019. With an increase of 174.13% over 20 years, their number has almost tripled compared to the first year considered. The increase in the number of employees is also correlated with the increase in labor productivity of the pharmaceutical sector, thus representing the prerequisites for an efficient use of the production factor represented by human capital. Both current and non-

current assets show significant increases during the period under review. In value terms, current assets exceed fixed assets for all entities. In addition to the increase in the value of own capital, turnover also increased. However, we witness an irregular evolution of net profit in the period 2000-2019 in the entities of the basic pharmaceutical manufacturing sector in Romania under the negative impact of the financial crisis of 2008-2009. However, during the 20 years we can discuss a positive evolution, in the sense of an increase in net profit from 7 million lei in 2000 to 119 million lei in 2019.

As regards the evolution of performance indicators, the net profit margin shows an irregular evolution during the period under review. Overall, the net profit margin increased from 4.75% in 2000 to 13.91% in 2019 for entities with caen 2120 and from 7.81% in 2000 to only 8.46% in 2019 for entities with caen code 2110. The same trend is seen for commercial, financial and economic profitability. We observe a galloping growth in both revenues and expenses recorded by the pharmaceutical industry in Romania, from revenues of 360 million lei in 2000 to revenues of over 4.7 billion lei. In the year 2000, only 331 million lei were spent, compared to 2019, when we have expenses of over 4 billion lei. Debts have also developed erratically. In the field of manufacture of pharmaceutical preparations (caen 2120), total debts increased from 143 million lei in 2000 to 1.5 billion lei in 2019. Entities in the field of manufacture of basic pharmaceutical products have a relatively upward trend of debts, debts increasing from 55 million lei in 2000 to 901 million lei in 2019. Contrary to the increase in debts, the debt ratio is gradually decreasing over the 20-year period of analysis. In the case of entities processing pharmaceutical products, the debt ratio decreases from 45.34% in 2000 to 39.09% in 2019. In the case of entities producing pharmaceutical preparations, it decreases from 40.98% in 2000 to 32.33% in 2019. In 2019, entities in the pharmaceutical preparations manufacturing sector, where we have the best debt coverage compared to entities producing pharmaceutical products, cover their debt on assets at a rate of 309.35%, with a favorable upward trend from a rate of 244% in 2000. Entities with caen code 2110 also manage to cover their debts in 2019 at a rate of 255%, compared to 220% in 2000. The high solvency values show us the profitability of the pharmaceutical industry sector due to the absence of insolvency risk.

4.2. The COVID-19 pandemic has also had a positive impact on the financial position of entities in the pharmaceutical industry in Romania. Even if we are witnessing a slight

reduction in the number of entities producing medicines, a decrease in cash and cash equivalents, as well as a favorable decrease in debts, indicators such as: number of employees, labor productivity, fixed assets, current assets (especially stocks), and equity have recorded significant increases during the pandemic period, beneficial both for the continuity of the activity carried out and for the further development of the economic and financial activity. Thus, the positive response in the face of the new global enemy has led to a favorable evolution of the financial position indicators of the pharmaceutical industry.

From the analysis of the impact of the pandemic on the financial performance indicators of the pharmaceutical industry sector in Romania, we can see its beneficial effect, contrary to expectations, thus finding an example of good debt management by decreasing indebtedness, by increasing the degree of debt coverage in the form of solvency, by increasing turnover, profit, economic, financial and commercial profitability, resulting in a profitable development of the activity carried out and maximizing the efficiency of the use of resources. All this is due above all to the growing need for medicines, so necessary for the physical and mental health of the population in the fight against the global virus, a need which has led to increased sales, increased supply, production, distribution and, of course, final consumption of pharmaceutical products. We can thus state that the pharmaceutical industry has been and continues to be the lifeline of the financial, economic and social environment, by actively contributing to the health and well-being of human capital, without which there can be no prosperous growth and future development of any economic and financial activity.

4.3. A number of studies address the impact of various factors on the performance, profitability and size of pharmaceutical entities. Many of these studies focus on analyzing the relationship between management indicators (stock turnover, assets, customers, and suppliers), risk indicators (leverage, debt ratio), profitability indicators (turnover, profit margin) and the profitability of the pharmaceutical sector. In this respect, in our approach we have analyzed the relationship between the profitability of the pharmaceutical industry sector measured by ROA (return on assets) and ROE (return on equity) indicators and indicators of the capital structure of companies such as equity, cash flow and average number of employees, profitability indicators such as turnover and net profit margin, risk indicators such as the debt ratio and a macroeconomic indicator represented by health expenditure per capita at national

level, using econometric modeling, on a sample of panel data for 41 economic entities for which we had data available for the whole period 2001-2021 (the last 21 years).

The regression results show that at the microeconomic level, profitability indicators (turnover, net profit margin), the risk indicator leverage, equity, house and bank accounts, and the average number of employees have a significant influence on economic profitability. At the macroeconomic level, the dynamics of health expenditure per capita have an impact on return on assets (ROA). According to the correlation matrix, the degree of indebtedness has a negative influence on all indicators (ROA, turnover, average number of employees, net profit margin, equity and cash), which means that in the pharmaceutical industry, as in other industries, a decrease in the degree of indebtedness contributes to an increase in profitability and profitability indicators, an increase in equity in the form of profit recorded over a period, an increase in cash available which can thus be used to cover future risks. Also, the lower an entity's leverage, the more attractive it becomes to future employees. Hence the indirect relationship between leverage and the average number of employees. According to the results, 27% of the dependence on return on assets is explained by determinants. The remaining 73% is influenced by other indicators not included in the model.

At the microeconomic level, turnover also has a significant positive impact on financial returns, while leverage and equity have a significant negative impact on ROE. In the pharmaceutical sector, indicators such as average number of employees, net profit margin and cash flow do not influence ROE. At the macroeconomic level, health expenditure per capita and health expenditure as a percentage of GDP do not influence financial returns. Only 10% of the dependence on capital returns is accounted for by determinants. The remaining 90% is influenced by other indicators not included in the model.

Own contributions

By its content, the Financial Performance Analysis of the Pharmaceutical Industry Sector in Romania in the Pre- and Post-Pandemic Period is useful for academics, researchers in the field, PhD students and students, as well as for internal and external economic entities: from managers, to business partners, to pharmaceutical employees, to financial analysts and many other stakeholders. By providing answers to the question of the financial performance of

economic entities belonging to the pharmaceutical industry in Romania, based on the information provided by the financial reports, in the pre- and post-pandemic period, we have provided the following own contributions to the research topic:

- ✚ Characterization of the financial-accounting diagnosis, detailing its objectives and importance, its need and role, and the users of the diagnosis;

- ✚ Description of the notion of performance, profit, determination of the relationship between performance-profit-availability;

- ✚ Determine the impact of accounting policies (in particular methods of valuing stocks on exit) and of International Financial Reporting Standards (IFRS) on performance;

- ✚ Detail the performance measurement activity and present the indicators used in the performance analysis activity;

- ✚ Presenting the evolution of the global, European and national pharmaceutical sector in the pre-pandemic period by analyzing pharmaceutical market revenues and their distribution by region;

- ✚ Presentation of the major players of the global and European pharmaceutical sector, the commercial partners;

- ✚ Top of the companies producing, distributing medicines and pharmacy chains operating in the national pharmaceutical sector;

- ✚ To produce a summary of the trade in medicines at European Union level, presenting the most important importers, exporters, manufacturers and employers in the pharmaceutical industry in Europe according to the values recorded in terms of production, trade activity, trade balance and employability in the sector;

- ✚ To establish the importance of R&D costs in the pharmaceutical sector by analyzing the expenditure incurred in bringing new medicines to market;

- ✚ Detailing the important aspects of the pandemic of covid-19, its impact on the economic environment and diagnosing the impact of the health crisis for the global, European and national pharmaceutical industry;

- ✚ Analysis of the evolution of financial position indicators (turnover, net/gross profit, revenues, expenses, inventories, receivables, payables, fixed and current assets, average number of employees, equity, share capital) for a number of 159 entities (46 entities in the field of manufacture of basic pharmaceutical products - caen code: 2110, and 113 economic

entities in the field of manufacture of pharmaceutical preparations - caen code: 2120) operating in Romania in the manufacturing pharmaceutical industry, for a period between 2000 and 2019;

- ✚ Analysis of financial performance indicators in the pharmaceutical industry: financial, economic and commercial rate of return, rate of return on revenues and expenses, net profit margin, leverage and overall leverage ratio, as well as overall solvency and equity ratio, for the 159 entities over a period of 20 years (2000-2019);

- ✚ Comparison of the trend of financial position and performance indicators in the period before Covid-19 (and we are talking here about a broad time horizon of 21 years, from 2000 to 2019) with the period after Covid-19 (2020 and 2021) for the Romanian manufacturing pharmaceutical industry;

- ✚ Analysis of the relationship between the profitability of the pharmaceutical industry sector as measured by ROA (return on assets), ROE (return on equity) and company capital structure indicators: equity, cash and cash equivalents and average number of employees, profitability indicators such as turnover and net profit margin, risk indicators such as indebtedness and a macroeconomic indicator represented by health expenditure per capita at national level, using econometric modeling, on a sample of panel data for a number of 41 economic entities for the period 2001-2021 (last 21 years).

Limitation of scientific research

Financial performance is a measure of profit, growth, productivity, added value, and is a complex indicator that confirms the profitability of the business. Given the complexity of this indicator, we can say that in the work of measuring financial performance it is necessary to analyze both the ability to make a profit and the value added, liquidity, solvency and financial balance. We believe that the basis of the financial-accounting diagnosis is the financial and accounting information resulting from the process of collecting, processing and storing information. The most important information used in the analysis and diagnosis process is found in the annual financial statements. The present research was limited to the analysis of profitability indicators such as ROA, ROE, and ROS, net profit margin, return on

income and expenses, as well as risk and solvency indicators due to the confidential nature of the information in the annual financial statements prepared by each individual company.

The major impediment in this case is access to this information, because in practice the publication of information for users of accounting information is not in the form required by the annual financial statements (assets, liabilities and equity classified according to liquidity and liquidity), which are public by law. For a correct assessment of financial performance, it would have been necessary to analyse liquidity and financial balance indicators, for which items such as short-term liabilities and long-term liabilities are not public data.

The lack of data represents a main research limitation, a limitation that we have tried to cover to some extent by determining a series of indicators considered the most important in assessing performance and by choosing a fairly long time horizon, discussing here an analysis carried out for the period 2000-2021 (the last 22 years), for all entities operating in Romania in the field of manufacturing basic pharmaceutical products and pharmaceutical preparations.

Another limitation of the research is the lack of data on the number of economic entities operating in Romania on a given activity (according to CAEN code). The choice of entities used as a basis for the research was mainly based on the data available on the website topfirme.com, a website that provides information from the financial statements of entities and ranks them according to several criteria. This was considerably limited by also taking information from www.mfinanțe.ro.

Future research direction

Given the major importance of the pharmaceutical sector to the global economy, we propose in future research to analyse the financial position and performance indicators for the world's leading pharmaceutical companies, as well as an analysis of the performance of the most productive European pharmaceutical companies. We also consider it necessary to complete the analysis of the impact of the covid-19 pandemic on the global, European and national pharmaceutical sector in order to gain a better insight into the changes in the production, sales and marketing of pharmaceuticals under the impact of the health crisis.

At national level, a better appreciation of the performance of the pharmaceutical sector also requires a future analysis of the profitability of the economic entities in the

pharmaceutical sector listed on the Bucharest Stock Exchange (BVB), especially in terms of liquidity, solvency and financial balance. In the case of these entities there will be no restriction on access to data from the annual financial statements, since the entities listed on the BVB are obliged to publish their financial reports in order to carry out an analysis of the economic and financial performance of the activity, which will help us to collect the data needed to calculate and interpret the results of the indicators used in the performance analysis.

Also, having analyzed the performance of the entities producing pharmaceutical products and preparations in Romania, we intend to analyse the performance of the distribution segment of the national pharmaceutical sector in future research. As a timeframe for the analysis we will also opt for the year 2022, in order to sediment the impact of the Covid-19 pandemic on the profitability of the pharmaceutical industry in Romania.

Starting from the major implications that a simple epidemic and subsequently a pandemic can have on the economic environment and on the activity of any economic entity, in a future research we also aim to establish the impact and the response of the national pharmaceutical sector to the energy crisis and to the war in Ukraine - considered to be two important moments of post-Covid-19 financial stress.

From an econometric point of view, as a future research direction we can opt for reducing the time horizon by including a larger number of economic entities, including in the category of determinants other microeconomic factors, and other macroeconomic factors considered economically significant, as well as establishing as dependent variables both net profit margin and turnover, or net profit. We also consider it necessary to assess the impact of R&D expenditure on profitability indicators as a determinant.

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